

REMARKS/ARGUMENTS

Claim 1 has been amended by incorporating subject matter of claim 4 into it. Claim 1 has also been amended to require adding most of the silica used in the process/used to form the composition to the first tank and to require melting most of the silica in the first tank, support for which exists throughout the present application, including page 4, line 34 through page 5, line 5.

Claims 4 and 16 have been canceled.

The dependency of claim 5 has been changed.

Claims 7 and 8 have been amended in a non-limiting manner to require the presence of a metal oxide in addition to the Si, Na and B oxides already identified.

Claim 9 has been amended in a non-limiting, grammatical manner.

Claim 15 has been amended so that it requires the presence of three tanks in series, each of which tanks comprises at least one submerged burner.

New independent claim 19 has been added. This claim is similar to claim 1, and it also requires the silica to be added in the form of grains.

New dependent claims 20-31 have been added. These claims correspond to existing dependent claims, except that they depend from claim 19.

Claims 1-3, 5-15 and 17-31 are currently pending, although claims 14-18 have been withdrawn. Upon indication of allowable subject matter, Applicants currently intend to seek rejoinder of at least one of the withdrawn claims as appropriate.

The Office Action rejected claims 7-9 under 35 U.S.C § 112, second paragraph, as being indefinite. In view of the above non-limiting amendments to claims 7-9, Applicants respectfully submit that this rejection has been rendered moot, and that the rejection should be reconsidered and withdrawn.

The Office Action rejected claims 1, 2 and 4 under 35 U.S.C § 102 as anticipated by U.S. patent 4,632,687 (“Kunkle”), claim 3 under 35 U.S.C § 103 as obvious over Kunkle in view of U.S. patent 5,908,703 (“Brix”), claims 5, 6 and 13 under 35 U.S.C § 103 as obvious over Kunkle in view of U.S. patent 2,923,636 (“Swain”), claims 10-12 under 35 U.S.C § 103 as obvious over Kunkle in view of U.S. patent 4,106,946 (“Ritze”), and claims 7-9 under 35 U.S.C § 103 as obvious over Kunkle in view of U.S. patent 2,492,523 (“Coffeen”). In view of the following comments, Applicants respectfully request reconsideration and withdrawal of these rejections.

The invention process includes introducing most of the silica to a first tank equipped with a submerged burner and melting most of the silica (transforming solid silica to liquid) in the first tank equipped with a submerged burner. The invention processes also require that the first tank having a submerged burner be heated to a higher temperature than the other tank(s) of the furnace. Kunkle neither teaches nor suggests such processes.

As illustrated in Kunkle’s figure, silica is added to tank (10), and the melt (44) is formed in tank (10). However, tank (10) does not contain a submerged burner. Thus, in Kunkle, most of the silica is introduced into and melted in a tank (10) which does not contain a submerged burner.

The liquefied melt leaves tank (10) and enters tank (50). Tank (50) contains a submerged burner. Tank (52) also contains a submerged burner. Thus, the submerged burners are all part of Kunkle’s refining device (including tanks (50) and (52)) which receive liquefied material and which do not form a melt.

Kunkle’s process which includes introducing most of the silica into a tank without a submerged burner and melting the silica in this burner-less tank is directly contrary to the invention processes in which the silica is added to and melted in a first tank comprising at least one submerged burner.

Furthermore, as indicated at col. 11, lines 16-19 of Kunkle, the temperature of the second tank comprising a submerged burner (52) is higher than that of the first tank (50). This is directly contrary to the invention processes which require the first tank having a submerged burner to be heated to a higher temperature than the other tanks containing a submerged burner. The disclosure at col. 8, line 68 of Kunkle does not alter this conclusion — this disclosure relates to Kunkle's tank (10), not to a tank containing a submerged burner.

Thus, Kunkle neither teaches nor suggests the invention processes.

The secondary references do not teach or suggest introducing most of the silica into a tank containing a submerged burner, forming a melt in a tank containing a submerged burner, and/or having a first tank containing such a submerged burner being heated to a higher temperature than the other tanks in the furnace. Accordingly, the secondary references cannot compensate for Kunkle's fatal deficiencies. None of the applied references, alone or in combination, would lead one of ordinary skill in the art to the invention processes.

In view of the above, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C §§ 102 and 103.

Applicants believe that the present application is in condition for allowance. Prompt and favorable consideration is earnestly solicited.

Respectfully submitted,

OBLON, SPIVAK, McCLELLAND,
MAIER & NEUSTADT, P.C.
Norman F. Oblon

Jeffrey B. McIntyre
Registration No. 36,867

Customer Number
22850

Tel: (703) 413-3000
Fax: (703) 413-2220
(OSMMN 06/04)